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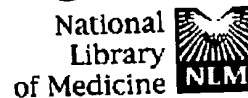
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Highly potent non-peptidic inhibitors of the HCV NS3/NS4A serine protease. *Bioorg Med Chem Lett.* 2002 Nov 4;12(21):3129-33. PMID: 12372517 [PubMed - indexed for MEDLINE]

- ☐ 2: Bianchi E, Pessi A. [Related Articles, Links](#)

Inhibiting viral proteases: challenges and opportunities. *Biopolymers.* 2002;66(2):101-14. Review. PMID: 12325160 [PubMed - indexed for MEDLINE]

- ☐ 3: Bukhtiyarova M, Rizzo CJ, Kettner CA, Korant BD, Scarnati HT, King RW. [Related Articles, Links](#)

Inhibition of the bovine viral diarrhoea virus NS3 serine protease by a boron-modified peptidyl mimetic of its natural substrate. *Antivir Chem Chemother.* 2001 Nov;12(6):367-73. PMID: 12018682 [PubMed - indexed for MEDLINE]

- ☐ 4: Ingallinella P, Fattori D, Altamura S, Steinkuhler C, Koch U, Cicero D, Bazzo R, Cortese R, Bianchi E, Pessi A. [Related Articles, Links](#)

Prime site binding inhibitors of a serine protease: NS3/4A of hepatitis C virus. *Biochemistry.* 2002 Apr 30;41(17):5483-92. PMID: 11969409 [PubMed - indexed for MEDLINE]

- ☐ 5: Archer SJ, Camac DM, Wu ZJ, Farrow NA, Domaille PJ, Wasserman ZR, Bukhtiyarova M, Rizzo C, Jagannathan S, Mersinger LJ, Kettner CA. [Related Articles, Links](#)

Hepatitis C virus NS3 protease requires its NS4A cofactor peptide for optimal binding of a boronic acid inhibitor as shown by NMR. *Chem Biol.* 2002 Jan;9(1):79-92. PMID: 11841941 [PubMed - indexed for MEDLINE]

- ☐ 6: Fukuda K, Vishnuvardhan D, Sekiya S, Hwang J, Kakiuchi N, Taira K, Shimotohno K, Kumar PK, Nishikawa S. [Related Articles, Links](#)







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Probing the active site of the hepatitis C virus serine protease by fluorescence resonance energy transfer. *J Biol Chem.* 2000 May 19;275(20):15106-13. PMID: 10809747 [PubMed - indexed for MEDLINE]

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J Biol Chem. 2000 Mar 10;275(10):7152-7.  
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-  Conformational changes in human hepatitis C virus NS3 protease upon binding of product-based inhibitors.  
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 Membrane permeabilization by small hydrophobic nonstructural proteins of Japanese encephalitis virus.  
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- ☐ 11: Dimasi N, Pasquo A, Martin F, Di Marco S, Steinkuhler C, Cortese R, Sollazzo M. [Related Articles](#), [Links](#)  
 Engineering, characterization and phage display of hepatitis C virus NS3 protease and NS4A cofactor peptide as a single-chain protein.  
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PMID: 9930676 [PubMed - indexed for MEDLINE]
- ☐ 12: Llinas-Brunet M, Bailey M, Fazal G, Goulet S, Halmos T, Laplante S, Maurice R, [Related Articles](#), [Links](#)  
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-  Peptide-based inhibitors of the hepatitis C virus serine protease.  
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- ☐ 13: Landro JA, Raybuck SA, Luong YP, O'Malley ET, Harbeson SL, Morgenstern KA, [Related Articles](#), [Links](#)  
[Rao G, Livingston DJ.](#)
-  Mechanistic role of an NS4A peptide cofactor with the truncated NS3 protease of hepatitis C virus: elucidation of the NS4A stimulatory effect via kinetic analysis and inhibitor mapping.  
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PMID: 9235976 [PubMed - indexed for MEDLINE]

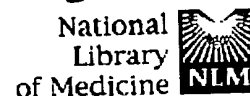
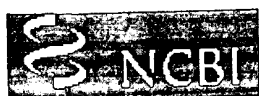
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- ☐ 1: Sperandio D, Gangloff AR, Litvak J, Goldsmith R, Hataye JM, Wang VR, Shelton EJ, Elrod K, Janc JW, Clark JM, Rice K, Weinheimer S, Yeung KS, Meanwell NA, Hernandez D, Staab AJ, Venables BL, Spencer JR. [Related Articles, Links](#)  
Highly potent non-peptidic inhibitors of the HCV NS3/NS4A serine protease. *Bioorg Med Chem Lett.* 2002 Nov 4;12(21):3129-33. PMID: 12372517 [PubMed - indexed for MEDLINE]
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- ☐ 4: Ingallinella P, Fattori D, Altamura S, Steinkuhler C, Koch U, Cicero D, Bazzo R, Cortese R, Bianchi E, Pessi A. [Related Articles, Links](#)  
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Protein Eng. 1998 Dec;11(12):1257-65.  
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- ☐ 9: Llinas-Brunet M, Bailey M, Fazal G, Goulet S, Halmos T, Laplante S, Maurice R, Poirier M, Poupart MA, Thibeault D, Wernic D, Lamarre D. [Related Articles](#), [Links](#)

 Peptide-based inhibitors of the hepatitis C virus serine protease.  
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PMID: 9873421 [PubMed - indexed for MEDLINE]

- ☐ 10: Landro JA, Raybuck SA, Luong YP, O'Malley ET, Harbeson SL, Morgenstern KA, Rao G, Livingston DJ. [Related Articles](#), [Links](#)

 Mechanistic role of an NS4A peptide cofactor with the truncated NS3 protease of hepatitis C virus: elucidation of the NS4A stimulatory effect via kinetic analysis and inhibitor mapping.  
Biochemistry. 1997 Aug 5;36(31):9340-8.  
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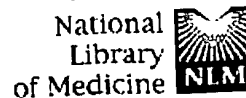
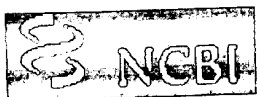
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☐ 1: Bioorg Med Chem Lett 1998 Jul 7;8(13):1713-8

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## Peptide-based inhibitors of the hepatitis C virus serine protease.

Llinas-Brunet M, Bailey M, Fazal G, Goulet S, Halmos T, Laplante S, Maurice R, Poirier M, Poupart MA, Thibeault D, Wernic D, Lamarre D.

Bio-Mega Research Division, Boehringer Ingelheim (Canada) Ltd., Laval, Quebec, Canada.

Hexapeptide DDIVPC-OH is a competitive inhibitor of the hepatitis C virus (HCV) NS3 protease complexed with NS4A cofactor peptide. This hexapeptide corresponds to the N-terminal cleavage product of an HCV dodecapeptide substrate derived from the NS5A/5B cleavage site. Structure-activity studies on Ac-DDIVPC-OH revealed that side chains of the P4, P3 and P1 residues contribute the most to binding and that the introduction of a D-amino acid at the P5 position improves potency considerably. Furthermore, there is a strong preference for cysteine at the P1 position and conservative replacements, such as serine, are not well tolerated.

PMID: 9873421 [PubMed - indexed for MEDLINE]

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S4	53	AU=(JAO E? OR JAO, E?)
S5	2118	AU=(BENNETT F? OR BENNETT, F?)
S6	5255	AU=(MCCORMICK J? OR MCCORMICK, J?)
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S17	1680	AU=(KEMP S? OR KEMP, S?)
S18	617	AU=(LEVY O? OR LEVY, O?)
S19	55	AU=(LIM-WILBY M? OR LIM-WILBY, M?)
S20	144304	S1:S19
S21	229	S20 AND HCV
S22	70	S20 AND NS3
S23	0	S20 AND HCV AND NS3 (W) INHIBITOR
S24	0	S20 AND NS3 (W) INHIBITOR
S25	0	S20 AND NS3(W)INHIBITOR
S26	13	S20 AND NS3 AND INHIBITOR
S27	5	S26 AND HCV
S28	3	S20 AND NS3 AND NS4A AND PROTEASE AND INHIBITOR
S29	3	S28 AND HCV
S30	88	NS3 AND NS4A AND HCV AND PROTEASE AND INHIBITOR
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DIALOG(R)File 5:Biosis Previews(R)

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**Peptide substrates for HCV NS3 protease assays.**

AUTHOR: Zhang Rumin(a); Malcolm Bruce A; Beyer Brian M; Njoroge F George;  
Durkin James P; Windsor William T

AUTHOR ADDRESS: (a)Edison, NJ\*\*USA

JOURNAL: Official Gazette of the United States Patent and Trademark Office  
Patents 1247 (4):pNo Pagination June 26, 2001

MEDIUM: e-file

ISSN: 0098-1133

DOCUMENT TYPE: Patent

RECORD TYPE: Abstract

LANGUAGE: English

**Peptide substrates for HCV NS3 protease assays.**

...AUTHOR: Njoroge F George

ABSTRACT: Novel chromogenic, fluorogenic and fluorescence polarization  
substrates which are useful in HCV NS3 protease and inhibitor assays.

...REGISTRY NUMBERS: NS3 PROTEASE

DESCRIPTORS:

CHEMICALS & BIOCHEMICALS: NS3 protease...

METHODS & EQUIPMENT: hepatitis C virus NS3 protease assay...

**26/3,K/2 (Item 1 from file: 73)**

DIALOG(R)File 73:EMBASE

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11877258 EMBASE No: 2002449077

**Establishment of a simple assay in vitro for hepatitis C virus NS3 serine  
protease based on recombinant substrate and single-chain protease**

Du G.-X.; Hou L.-H.; Guan R.-B.; Tong Y.-G.; Wang H.-T.

Dr. G.-X. Du, Dept. of Applied Molecular Biology, Inst. of Microbiol. and  
Epidemiology, Fentai, Beijing 100071 China

AUTHOR EMAIL: dugx@hotmail.com

World Journal of Gastroenterology ( WORLD J. GASTROENTEROL. ) (China)  
2002, 8/6 (1088-1093)

CODEN: WJGAF ISSN: 1007-9327

DOCUMENT TYPE: Journal ; Article

LANGUAGE: ENGLISH SUMMARY LANGUAGE: ENGLISH

NUMBER OF REFERENCES: 41

**Establishment of a simple assay in vitro for hepatitis C virus NS3  
serine protease based on recombinant substrate and single-chain protease**

Du G.-X.; Hou L.-H.; Guan R.-B.; Tong Y.-G.; Wang H.-T.

Aim: To establish a simple and convenient assay in vitro for the  
Hepatitis C virus NS3 serine protease based on the recombinant protease  
and substrate, and to evaluate its feasibility in...

...in which the central sequence of cofactor NS4A was linked to the  
N-terminus of NS3 serine protease domain via a flexible linker GSGS. The  
fusion gene was obtained by two...

...EDTA had not. Conclusion: A simple and convenient assay in vitro for  
hepatitis C virus NS3 serine protease is based on recombinant substrate  
NS5ab and single-chain serine protease. This assay...

DRUG DESCRIPTORS:



\*serine proteinase; \*serine proteinase inhibitor --drug development--dv

26/3,K/3 (Item 1 from file: 357)  
DIALOG(R)File 357:Derwent Biotech Res.  
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0291346 DBR Accession No.: 2002-13193 PATENT  
**Novel peptide inhibitor compounds of hepatitis virus NS3/NS4a serine  
protease, useful for treating hepatitis C virus disorders -  
protease-inhibitor peptide for virus infection therapy**  
AUTHOR: SAKSENA A K; GIRIJAVALLABHAN V M; LOVEY R G; JAO E E; BENNETT F  
; MCCORMICK J; WANG H; PIKE R E; BOGEN S L; LIU Y; ARASAPPAN A;  
PAREKH T; PINTO P A; NJOROG F G; GANGULY A K; BRUNCK T K; KEMP S  
J; LEVY O E; LIM-WILBY M  
PATENT ASSIGNEE: SCHERING CORP; CORVAS INT INC 2002  
PATENT NUMBER: WO 200208256 PATENT DATE: 20020131 WPI ACCESSION NO.:  
2002-361644 (200239)  
PRIORITY APPLIC. NO.: US 220109 APPLIC. DATE: 20000721  
NATIONAL APPLIC. NO.: WO 2001US22826 APPLIC. DATE: 20010719  
LANGUAGE: English

**Novel peptide inhibitor compounds of hepatitis virus NS3 /NS4a serine  
protease, useful for treating hepatitis C virus disorders - protease-  
inhibitor peptide for virus infection therapy**  
AUTHOR: SAKSENA A K ; GIRIJAVALLABHAN V M ; LOVEY R G ; JAO E E ;  
BENNETT F ; MCCORMICK J ; WANG H ; PIKE R E ; BOGEN S L ; LIU  
Y ; ARASAPPAN A ; PAREKH T ; PINTO P A ; NJOROG F G ;  
GANGULY A K ; BRUNCK T K ; KEMP S J ; LEVY O E ; LIM-WILBY M  
...ABSTRACT: ACTIVITY - Virucide; hepatotrophic. No supporting data is  
given. MECHANISM OF ACTION - Hepatitis C virus (HCV) NS3 /NS4a serine  
protease inhibitors. USE - (I) is useful for manufacturing a medicament  
to treat disorders...

... I) having formula of (F2) is useful for modulating activity of HCV  
protease preferably, HCV NS3 /NS4a protease and for modulating the  
processing of HCV polypeptide. (II) is useful for treating...  
DESCRIPTORS: hepatitis C virus NS3 , NS4a protease- inhibitor peptide  
prep., HPLC analysis, ribavirin, interferon-alpha virucide treatment,  
solid phase peptide synth., appl. hepatitis C virus infection therapy  
flavi virus enzyme- inhibitor chromatography protein sequence (21, 40)

26/3,K/4 (Item 2 from file: 357)  
DIALOG(R)File 357:Derwent Biotech Res.  
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0291345 DBR Accession No.: 2002-13192 PATENT  
**Novel peptide compound having hepatitis C virus protease inhibitory  
activity useful for treating disorders associated with hepatitis C  
virus protease - protease-inhibitor peptide for virus infection therapy**  
AUTHOR: LIM-WILBY M; LEVY O E; BRUNCK T K  
PATENT ASSIGNEE: CORVAS INT INC 2002  
PATENT NUMBER: WO 200208251 PATENT DATE: 20020131 WPI ACCESSION NO.:  
2002-361643 (200239)  
PRIORITY APPLIC. NO.: US 220101 APPLIC. DATE: 20000721  
NATIONAL APPLIC. NO.: WO 2001US23169 APPLIC. DATE: 20010719  
LANGUAGE: English

**...virus protease inhibitory activity useful for treating disorders  
associated with hepatitis C virus protease - protease- inhibitor  
peptide for virus infection therapy**  
AUTHOR: LIM-WILBY M ; LEVY O E ; BRUNCK T K  
...ABSTRACT: antiviral agent (preferably ribavirin) and an interferon

(preferably alpha-interferon). **ACTIVITY** - Virucide. **MECHANISM OF ACTION** - Inhibitor of HCV NS3 /NS4a serine protease activity. The HCV protease inhibitory activity of (I) was examined using a... concentrations of enzyme and substrate. The results showed that the compounds had excellent utility as NS3 -serine protease inhibitors. **USE** - (I) is useful for treating and in the manufacture of a...  
**DESCRIPTORS**: hepatitis C virus protease- inhibitor alpha-ketoamide peptide analog prep., HPLC, spectroscopy analysis, ribavirin, interferon-alpha virucide treatment, standard peptide synth., appl. hepatitis C virus infection therapy flavi virus enzyme- inhibitor chromatography protein sequence (21, 40)

26/3,K/5 (Item 3 from file: 357)

DIALOG(R)File 357:Derwent Biotech Res.

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0290479 DBR Accession No.: 2002-12326 **PATENT**

**Peptides are hepatitis C virus NS3-Serine protease inhibitor useful for treating disorders associated with Hepatitis C virus or HCV protease - enzyme-inhibitor, ribavarin and alpha-interferon treatment for infection therapy**

**AUTHOR**: SAKSENA A K; GIRIJAVALLABHAN V M; BOGEN S L; LOVEY R G; JAO E E ; BENNETT F; MC CORMICK J L; WANG H; PIKE R E; LIU Y; CHAN T; ZHU Z; ARASAPPAN A; CHEN K X; VENKATRAMAN S; PAREKH T N; PINTO P A ; SANTHANAM B; NJOROG F G; GANGULY A K; VACCARO H A; KEMP S J; LEVY O E; LIM-WILBY M; TAMURA S Y

**PATENT ASSIGNEE**: SCHERING CORP; CORVAS INT INC 2002

**PATENT NUMBER**: WO 200208187 **PATENT DATE**: 20020131 **WPI ACCESSION NO.**:

2002-280596 (200232)

**PRIORITY APPLIC. NO.**: US 220107 **APPLIC. DATE**: 20000721

**NATIONAL APPLIC. NO.**: WO 2001US22813 **APPLIC. DATE**: 20010719

**LANGUAGE**: English

**Peptides are hepatitis C virus NS3 -Serine protease inhibitor useful for treating disorders associated with Hepatitis C virus or HCV protease - enzyme- inhibitor , ribavarin and alpha-interferon treatment for infection therapy**

**AUTHOR**: SAKSENA A K ; GIRIJAVALLABHAN V M ; BOGEN S L ; LOVEY R G ; JAO E E ; BENNETT F ; MC CORMICK J L; WANG H ; PIKE R E ; LIU Y ; CHAN T; ZHU Z; ARASAPPAN A ; CHEN K X; VENKATRAMAN S; PAREKH T N ; PINTO P A ; SANTHANAM B; NJOROG F G ; GANGULY A K ; VACCARO H A; KEMP S J ; LEVY O E ; LIM-WILBY M ; TAMURA S Y

...**ABSTRACT**: composition comprising (I) and a carrier. **ACTIVITY** - Antiviral; Hepatotropic. **MECHANISM OF ACTION** - Hepatitis C virus NS3 -Serine protease inhibitor . **USE** - (I) is used for the manufacture of a medicament or for treating disorders associated...

**DESCRIPTORS**: hepatitis C virus NS3 -serine protease- inhibitor , ribavarin, alpha-interferon treatment, appl. virucide, hepatitis C virus infection therapy flavi virus enzyme- inhibitor protein sequence (21, 38)

26/3,K/6 (Item 1 from file: 399)

DIALOG(R)File 399:CA SEARCH(R)

(c) 2003 American Chemical Society. All rts. reserv.

137047444 CA: 137(4)47444k **PATENT**

**Preparation of diaryl peptides as NS3-serine protease inhibitors of hepatitis C virus**

**INVENTOR(AUTHOR)**: Zhu, Zhaoning; Sun, Zhong-Yue; Venkatraman, Srikanth; Njoroge, F. George; Arasappan, Ashok; Malcolm, Bruce A.; Girijavallabhan, Viyyoor M.; Lovey, Raymond G.; Chen, Kevin X.

**LOCATION**: USA

ASSIGNEE: Schering Corporation

PATENT: PCT International ; WO 200248172 A2 DATE: 20020620

APPLICATION: WO 2001US47383 (20011210) \*US PV254869 (20001212)

PAGES: 149 pp. CODEN: PIXXD2 LANGUAGE: English CLASS: C07K-000/A

DESIGNATED COUNTRIES: AE; AG; AL; AM; AT; AU; AZ; BA; BB; BG; BR; BY; BZ; CA; CH; CN; CO; CR; CZ; DE; DK; DM; DZ; EC; EE; ES; FI; GB; GD; GE; HR; HU; ID; IL; IN; IS; JP; KG; KR; KZ; LC; LK; LR; LT; LU; LV; MA; MD; MG; MK; MN; MX; MZ; NO; NZ; PH; PL; PT; RO; RU; SE; SG; SI; SK; SL; TJ; TM; TN; TR; TT; TZ; UA; UZ; VN; YU; ZA; ZM; AM; AZ; BY; KG; KZ; MD; RU; TJ; TM

DESIGNATED REGIONAL: GH; GM; KE; LS; MW; MZ; SD; SL; SZ; TZ; UG; ZM; ZW; AT; BE; CH; CY; DE; DK; ES; FI; FR; GB; GR; IE; IT; LU; MC; NL; PT; SE; TR; BF; BJ; CF; CG; CI; CM; GA; GN; GQ; GW; ML; MR; NE; SN; TD; TG

26/3,K/7 (Item 2 from file: 399)

DIALOG(R)File 399:CA SEARCH(R)

(c) 2003 American Chemical Society. All rts. reserv.

136167698 CA: 136(11)167698x PATENT

Preparation of peptides as NS3-serine protease inhibitors of hepatitis C virus

INVENTOR(AUTHOR): Saksena, Anil K.; Girijavallabhan, Viyyoor Moopil; Lovey, Raymond G.; Jao, Edwin E.; Bennett, Frank; McCormick, Jinping L.; Wang, Haiyan; Pike, Russell E.; Bogen, Stephane L.; Chan, Tin-Yau; Liu, Yi-Tsung; Zhu, Zhaoning; Njoroge, F. George; Arasappan, Ashok; Parekh, Tejal N.; Ganguly, Ashit K.; Chen, Kevin X.; Venkatraman, Srikanth; Vaccaro, Henry A.; Pinto, Patrick A.; Santhanam, Bama; Wu, Wanli; Hendrata, Siska; Huang, Yuhua; Kemp, Scott Jeffrey; Levy, Odile Esther; Lim-Wilby, Marguerita; Tamura, Susan Y.

LOCATION: USA

ASSIGNEE: Schering Corporation; Corvas International, Inc.

PATENT: PCT International ; WO 200208244 A2 DATE: 20020131

APPLICATION: WO 2001US22678 (20010719) \*US PV220108 (20000721)

PAGES: 536 pp. CODEN: PIXXD2 LANGUAGE: English CLASS: C07K-000/A

DESIGNATED COUNTRIES: AE; AG; AL; AM; AT; AU; AZ; BA; BB; BG; BR; BY; BZ; CA; CH; CN; CO; CR; CZ; DE; DK; DM; DZ; EC; EE; ES; FI; GB; GD; GE; HR; HU; ID; IL; IN; IS; JP; KG; KR; KZ; LC; LK; LR; LT; LU; LV; MA; MD; MG; MK; MN; MX; MZ; NO; NZ; PL; PT; RO; RU; SE; SG; SI; SK; SL; TJ; TM; TR; TT; TZ; UA; UZ; VN; YU; ZA; AM; AZ; BY; KG; KZ; MD; RU; TJ; TM DESIGNATED REGIONAL: GH; GM; KE; LS; MW; MZ; SD; SL; SZ; TZ; UG; ZW; AT; BE; CH; CY; DE; DK; ES; FI; FR; GB; GR; IE; IT; LU; MC; NL; PT; SE; TR; BF; BJ; CF; CG; CI; CM; GA; GN; GQ; GW; ML; MR; NE; SN; TD; TG

26/3,K/8 (Item 3 from file: 399)

DIALOG(R)File 399:CA SEARCH(R)

(c) 2003 American Chemical Society. All rts. reserv.

136151440 CA: 136(10)151440w PATENT

Preparation of novel peptides as NS3-serine protease inhibitors of hepatitis C virus

INVENTOR(AUTHOR): Saksena, Anil K.; Girijavallabhan, Viyyoor Moopil; Lovey, Raymond G.; Jao, Edwin E.; Bennett, Frank; McCormick, Jinping; Wang, Haiyan; Pike, Russell E.; Bogen, Stephane L.; Liu, Yi-Tsung; Arasappan, Ashok; Parekh, Tejal; Pinto, Patrick A.; Njoroge, F. George; Ganguly, Ashit K.; Brunck, Terence K.; Kemp, Scott Jeffrey; Levy, Odile Esther; Lim-Wilby, Marguerita

LOCATION: USA

ASSIGNEE: Schering Corporation; Corvas International, Inc.

PATENT: PCT International ; WO 200208256 A2 DATE: 20020131

APPLICATION: WO 2001US22826 (20010719) \*US PV220109 (20000721)

PAGES: 197 pp. CODEN: PIXXD2 LANGUAGE: English CLASS: C07K-014/00A

DESIGNATED COUNTRIES: AE; AG; AL; AM; AT; AU; AZ; BA; BB; BG; BR; BY; BZ; CA; CH; CN; CO; CR; CZ; DE; DK; DM; DZ; EC; EE; ES; FI; GB; GD; GE; HR; HU;

ID; IL; IN; IS; JP; KG; KR; KZ; LC; LK; LR; LT; LU; LV; MA; MD; MG; MK; MN;  
MX; MZ; NO; NZ; PL; PT; RO; RU; SE; SG; SI; SK; SL; TJ; TM; TR; TT; TZ; UA;  
UZ; VN; YU; ZA; AM; AZ; BY; KG; KZ; MD; RU; TJ; TM DESIGNATED REGIONAL: GH  
; GM; KE; LS; MW; MZ; SD; SL; SZ; TZ; UG; ZW; AT; BE; CH; CY; DE; DK; ES;  
FI; FR; GB; GR; IE; IT; LU; MC; NL; PT; SE; TR; BF; BJ; CF; CG; CI; CM; GA;  
GN; GQ; GW; ML; MR; NE; SN; TD; TG

**26/3,K/9 (Item 4 from file: 399)**

DIALOG(R)File 399:CA SEARCH(R)

(c) 2003 American Chemical Society. All rts. reserv.

**136151439 CA: 136(10)151439c PATENT**

**Preparation of novel peptides as NS3-serine protease inhibitors of hepatitis C virus**

INVENTOR(AUTHOR): Saksena, Anil K.; Girijavallabhan, Viyyoor Moopil;  
Bogen, Stephane L.; Lovey, Raymond G.; Jao, Edwin E.; Bennett, Frank;  
McCormick, Jinping L.; Wang, Haiyan; Pike, Russell E.; Liu, Yi-Tsung; Chan,  
Tin-Yau; Zhu, Zhaoning; Arasappan, Ashok; Chen, Kevin X.; Venkatraman,  
Srikanth; Parekh, Tejal N.; Pinto, Patrick A.; Santhanam, Bama; Njoroge, F.  
George; Ganguly, Ashit K.; Vaccaro, Henry A.; Kemp, Scott Jeffrey; Levy,  
Odile Esther; Lim-Wilby, Marguerita; Tamura, Susan Y.

LOCATION: USA

ASSIGNEE: Schering Corporation; Corvas International, Inc.

PATENT: PCT International ; WO 200208187 A1 DATE: 20020131

APPLICATION: WO 2001US22813 (20010719) \*US PV220107 (20000721)

PAGES: 188 pp. CODEN: PIXXD2 LANGUAGE: English CLASS: C07D-209/02A;

C07D-211/04B; C07D-233/56B; C07D-317/10B; C07D-319/04B; C07D-339/02B;  
C07D-339/08B; C07C-229/00B; C07C-233/05B; C07C-271/08B; C07C-271/32B;  
A61K-031/16B; A61K-031/27B; A61K-031/195B; A61K-031/357B; A61K-031/385B;  
A61K-031/403B; A61K-031/445B; A61K-031/4164B DESIGNATED COUNTRIES: AE; AG;  
AL; AM; AT; AU; AZ; BA; BB; BG; BR; BY; BZ; CA; CH; CN; CO; CR; CZ; DE; DK;  
DM; DZ; EC; EE; ES; FI; GB; GD; GE; HR; HU; ID; IL; IN; IS; JP; KG; KR; KZ;  
LC; LK; LR; LT; LU; LV; MA; MD; MG; MK; MN; MX; MZ; NO; NZ; PL; PT; RO; RU;  
SE; SG; SI; SK; SL; TJ; TM; TR; TT; TZ; UA; UZ; VN; YU; ZA; AM; AZ; BY; KG;  
KZ; MD; RU; TJ; TM DESIGNATED REGIONAL: GH; GM; KE; LS; MW; MZ; SD; SL; SZ  
; TZ; UG; ZW; AT; BE; CH; CY; DE; DK; ES; FI; FR; GB; GR; IE; IT; LU; MC;  
NL; PT; SE; TR; BF; BJ; CF; CG; CI; CM; GA; GN; GQ; GW; ML; MR; NE; SN; TD;  
TG

**26/3,K/10 (Item 5 from file: 399)**

DIALOG(R)File 399:CA SEARCH(R)

(c) 2003 American Chemical Society. All rts. reserv.

**136145200 CA: 136(10)145200b PATENT**

**Novel peptides as ns3-serine protease inhibitors of hepatitis C virus**

INVENTOR(AUTHOR): Lim-Wilby, Marguerita; Levy, Odile E.; Brunck, Terrence  
K.

LOCATION: USA

ASSIGNEE: Corvas International, Inc.

PATENT: PCT International ; WO 200208251 A2 DATE: 20020131

APPLICATION: WO 2001US23169 (20010719) \*US PV220101 (20000721)

PAGES: 69 pp. CODEN: PIXXD2 LANGUAGE: English CLASS: C07K-007/00A

DESIGNATED COUNTRIES: AE; AG; AL; AM; AT; AU; AZ; BA; BB; BG; BR; BY; BZ;  
CA; CH; CN; CO; CR; CZ; DE; DK; DM; DZ; EC; EE; ES; FI; GB; GD; GE; HR; HU;  
ID; IL; IN; IS; JP; KG; KR; KZ; LC; LK; LR; LT; LU; LV; MA; MD; MG; MK; MN;  
MX; MZ; NO; NZ; PL; PT; RO; RU; SE; SG; SI; SK; SL; TJ; TM; TR; TT; TZ; UA;  
UZ; VN; YU; ZA; AM; AZ; BY; KG; KZ; MD; RU; TJ; TM DESIGNATED REGIONAL: GH  
; GM; KE; LS; MW; MZ; SD; SL; SZ; TZ; UG; ZW; AT; BE; CH; CY; DE; DK; ES;  
FI; FR; GB; GR; IE; IT; LU; MC; NL; PT; SE; TR; BF; BJ; CF; CG; CI; CM; GA;  
GN; GQ; GW; ML; MR; NE; SN; TD; TG

26/3,K/11 (Item 6 from file: 399)  
DIALOG(R)File 399:CA SEARCH(R)  
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136135031 CA: 136(9)135031h PATENT  
Preparation of novel imidazolidinones as NS3-serine protease inhibitors  
of hepatitis C virus

INVENTOR(AUTHOR): Arasappan, Ashok; Parekh, Tejal; Njoroge, F. George;  
Girijavallabhan, Viyyoor Moopil; Ganguily, Ashit K.

LOCATION: USA

ASSIGNEE: Schering Corporation

PATENT: PCT International ; WO 200208198 A2 DATE: 20020131

APPLICATION: WO 2001US22828 (20010719) \*US PV220110 (20000721)

PAGES: 88 pp. CODEN: PIXXD2 LANGUAGE: English CLASS: C07D-233/00A

DESIGNATED COUNTRIES: AE; AG; AL; AM; AT; AU; AZ; BA; BB; BG; BR; BY; BZ;  
CA; CH; CN; CO; CR; CZ; DE; DK; DM; DZ; EC; EE; ES; FI; GB; GD; GE; HR; HU;  
ID; IL; IN; IS; JP; KG; KR; KZ; LC; LK; LR; LT; LU; LV; MA; MD; MG; MK; MN;  
MX; MZ; NO; NZ; PL; PT; RO; RU; SE; SG; SI; SK; SL; TJ; TM; TR; TT; TZ; UA;  
UZ; VN; YU; ZA; AM; AZ; BY; KG; KZ; MD; RU; TJ; TM DESIGNATED REGIONAL: GH  
; GM; KE; LS; MW; MZ; SD; SL; SZ; TZ; UG; ZW; AT; BE; CH; CY; DE; DK; ES;  
FI; FR; GB; GR; IE; IT; LU; MC; NL; PT; SE; TR; BF; BJ; CF; CG; CI; CM; GA;  
GN; GQ; GW; ML; MR; NE; SN; TD; TG

26/3,K/12 (Item 7 from file: 399)  
DIALOG(R)File 399:CA SEARCH(R)  
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135344735 CA: 135(24)344735j PATENT  
Preparation of macrocyclic NS3-serine protease inhibitors of hepatitis C  
virus comprising alkyl and aryl alanine p2 moieties

INVENTOR(AUTHOR): Venkatraman, Srikanth; Chen, Kevin X.; Arasappan, Ashok  
; Njoroge, F. George; Girijavallabhan, Viyyoor M.; Chan, Tin-Yau;  
McKittrick, Brian A.; Prongay, Andrew J.; Madison, Vincent S.

LOCATION: USA

ASSIGNEE: Schering Corporation

PATENT: PCT International ; WO 200181325 A2 DATE: 20011101

APPLICATION: WO 2001US12530 (20010417) \*US PV198204 (20000419)

PAGES: 218 pp. CODEN: PIXXD2 LANGUAGE: English CLASS: C07D-273/00A

DESIGNATED COUNTRIES: AE; AG; AL; AM; AT; AU; AZ; BA; BB; BG; BR; BY; BZ;  
CA; CH; CN; CO; CR; CZ; DE; DK; DM; DZ; EE; ES; FI; GB; GD; GE; HR; HU; ID;  
IL; IN; IS; JP; KG; KR; KZ; LC; LK; LR; LT; LU; LV; MA; MD; MG; MK; MN; MX;  
MZ; NO; NZ; PL; PT; RO; RU; SE; SG; SI; SK; SL; TJ; TM; TR; TT; TZ; UA; UZ;  
VN; YU; ZA; AM; AZ; BY; KG; KZ; MD; RU; TJ; TM DESIGNATED REGIONAL: GH; GM  
; KE; LS; MW; MZ; SD; SL; SZ; TZ; UG; ZW; AT; BE; CH; CY; DE; DK; ES; FI;  
FR; GB; GR; IE; IT; LU; MC; NL; PT; SE; TR; BF; BJ; CF; CG; CI; CM; GA; GN;  
GW; ML; MR; NE; SN; TD; TG

26/3,K/13 (Item 8 from file: 399)  
DIALOG(R)File 399:CA SEARCH(R)  
(c) 2003 American Chemical Society. All rts. reserv.

135318715 CA: 135(22)318715h PATENT  
Preparation of macrocyclic NS3-serine protease inhibitors of hepatitis C  
virus comprising n-cyclic p2 moieties

INVENTOR(AUTHOR): Chen, Kevin X.; Arasappan, Ashok; Venkatraman, Srikanth  
; Parekh, Tejal N.; Gu, Haining; Njoroge, F. George; Girijavallabhan,  
Viyyoor M.; Ganguly, Ashit; Saksena, Anil; Jao, Edwin; Yao, Nanhua H.;  
Prongay, Andrew J.; Madison, Vincent S.; Vibulbhan, Bancha

LOCATION: USA

ASSIGNEE: Schering Corporation

PATENT: PCT International ; WO 200177113 A2 DATE: 20011018

APPLICATION: WO 2001US10869 (20010403) \*US PV194607 (20000405)

PAGES: 402 pp. CODEN: PIXXD2 LANGUAGE: English CLASS: C07D-498/00A  
DESIGNATED COUNTRIES: AE; AG; AL; AM; AT; AU; AZ; BA; BB; BG; BR; BY; BZ;  
CA; CH; CN; CO; CR; CZ; DE; DK; DM; DZ; EE; ES; FI; GB; GD; GE; HR; HU; ID;  
IL; IN; IS; JP; KG; KR; KZ; LC; LK; LR; LT; LU; LV; MA; MD; MG; MK; MN; MX;  
MZ; NO; NZ; PL; PT; RO; RU; SE; SG; SI; SK; SL; TJ; TM; TR; TT; TZ; UA; UZ;  
VN; YU; ZA; AM; AZ; BY; KG; KZ; MD; RU; TJ; TM DESIGNATED REGIONAL: GH; GM  
; KE; LS; MW; MZ; SD; SL; SZ; TZ; UG; ZW; AT; BE; CH; CY; DE; DK; ES; FI;  
FR; GB; GR; IE; IT; LU; MC; NL; PT; SE; TR; BF; BJ; CF; CG; CI; CM; GA; GN;  
GW; ML; MR; NE; SN; TD; TG  
?

T S27/3,K/ALL

>>>KWIC option is not available in file(s): 399

27/3,K/1 (Item 1 from file: 5)  
DIALOG(R)File 5:Biosis Previews(R)  
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13216466 BIOSIS NO.: 200100423615

**Peptide substrates for HCV NS3 protease assays.**

AUTHOR: Zhang Rumin(a); Malcolm Bruce A; Beyer Brian M; Njoroge F George;  
Durkin James P; Windsor William T  
AUTHOR ADDRESS: (a)Edison, NJ\*\*USA  
JOURNAL: Official Gazette of the United States Patent and Trademark Office  
Patents 1247 (4):pNo Pagination June 26, 2001  
MEDIUM: e-file  
ISSN: 0098-1133  
DOCUMENT TYPE: Patent  
RECORD TYPE: Abstract  
LANGUAGE: English

**Peptide substrates for HCV NS3 protease assays.**

...AUTHOR: Njoroge F George

ABSTRACT: Novel chromogenic, fluorogenic and fluorescence polarization  
substrates which are useful in HCV NS3 protease and inhibitor  
assays.

...REGISTRY NUMBERS: NS3 PROTEASE

DESCRIPTORS:

CHEMICALS & BIOCHEMICALS: NS3 protease...

METHODS & EQUIPMENT: hepatitis C virus NS3 protease assay...

27/3,K/2 (Item 1 from file: 73)

DIALOG(R)File 73:EMBASE  
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11877258 EMBASE No: 2002449077

**Establishment of a simple assay in vitro for hepatitis C virus NS3 serine  
protease based on recombinant substrate and single-chain protease**

Du G.-X.; Hou L.-H.; Guan R.-B.; Tong Y.-G.; Wang H.-T.  
Dr. G.-X. Du, Dept. of Applied Molecular Biology, Inst. of Microbiol. and  
Epidemiology, Fentai, Beijing 100071 China  
AUTHOR EMAIL: dugx@hotmail.com  
World Journal of Gastroenterology ( WORLD J. GASTROENTEROL. ) (China)  
2002, 8/6 (1088-1093)  
CODEN: WJGAF ISSN: 1007-9327  
DOCUMENT TYPE: Journal ; Article  
LANGUAGE: ENGLISH SUMMARY LANGUAGE: ENGLISH  
NUMBER OF REFERENCES: 41

**Establishment of a simple assay in vitro for hepatitis C virus NS3  
serine protease based on recombinant substrate and single-chain protease**

Du G.-X.; Hou L.-H.; Guan R.-B.; Tong Y.-G.; Wang H.-T.

Aim: To establish a simple and convenient assay in vitro for the  
Hepatitis C virus NS3 serine protease based on the recombinant protease  
and substrate, and to evaluate its feasibility in screening the enzyme  
inhibitors. Methods: Based on the crystallographic structure of hepatitis C  
virus ( HCV ) serine protease, a novel single-chain serine protease was  
designed, in which the central sequence of cofactor NS4A was linked to the  
N-terminus of NS3 serine protease domain via a flexible linker GSGS. The  
fusion gene was obtained by two...

...EDTA had not. Conclusion: A simple and convenient assay in vitro for

hepatitis C virus NS3 serine protease is based on recombinant substrate NS5ab and single-chain serine protease. This assay...

## DRUG DESCRIPTORS:

\*serine proteinase; \*serine proteinase inhibitor --drug development--dv

27/3,K/3 (Item 1 from file: 357)

DIALOG(R)File 357:Derwent Biotech Res.

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0291346 DBR Accession No.: 2002-13193 PATENT

**Novel peptide inhibitor compounds of hepatitis virus NS3/NS4a serine protease, useful for treating hepatitis C virus disorders - protease-inhibitor peptide for virus infection therapy**

AUTHOR: SAKSENA A K; GIRIJAVALLABHAN V M; LOVEY R G; JAO E E; BENNETT F ; MCCORMICK J; WANG H; PIKE R E; BOGEN S L; LIU Y; ARASAPPAN A; PAREKH T; PINTO P A; NJOROG F G; GANGULY A K; BRUNCK T K; KEMP S J; LEVY O E; LIM-WILBY M

PATENT ASSIGNEE: SCHERING CORP; CORVAS INT INC 2002

PATENT NUMBER: WO 200208256 PATENT DATE: 20020131 WPI ACCESSION NO.:

2002-361644 (200239)

PRIORITY APPLIC. NO.: US 220109 APPLIC. DATE: 20000721

NATIONAL APPLIC. NO.: WO 2001US22826 APPLIC. DATE: 20010719

LANGUAGE: English

**Novel peptide inhibitor compounds of hepatitis virus NS3 /NS4a serine protease, useful for treating hepatitis C virus disorders - protease-inhibitor peptide for virus infection therapy**

AUTHOR: SAKSENA A K ; GIRIJAVALLABHAN V M ; LOVEY R G ; JAO E E ; BENNETT F ; MCCORMICK J ; WANG H ; PIKE R E ; BOGEN S L ; LIU Y ; ARASAPPAN A ; PAREKH T ; PINTO P A ; NJOROG F G ; GANGULY A K ; BRUNCK T K ; KEMP S J ; LEVY O E ; LIM-WILBY M

ABSTRACT: DERWENT ABSTRACT: NOVELTY - A peptide compound (I) exhibiting hepatitis C virus ( HCV ) protease inhibitory activity, including enantiomers, stereoisomers, rotomers and tautomers, pharmaceutically acceptable salts, solvates or derivatives...

... which includes (S), is new. DETAILED DESCRIPTION - A peptide compound (I) exhibiting hepatitis C virus ( HCV ) protease inhibitory activity, including enantiomers, stereoisomers, rotomers and tautomers, pharmaceutically acceptable salts, solvates or derivatives...

...a formula of (F1) or (F2); and (2) preparing (II) for treating disorders associated with HCV protease involves bringing into intimate contact (I) of formula F1 or F2 and a carrier...

... interferon. ACTIVITY - Virucide; hepatotropic. No supporting data is given. MECHANISM OF ACTION - Hepatitis C virus ( HCV ) NS3 /NS4a serine protease inhibitors. USE - (I) is useful for manufacturing a medicament to treat disorders associated with HCV protease. (I) having formula of (F2) is useful for modulating activity of HCV protease preferably, HCV NS3 /NS4a protease and for modulating the processing of HCV polypeptide. (II) is useful for treating disorders associated with hepatitis C virus and for treating disorders associated with HCV protease (all claimed). (I) is useful for treating hepatitis caused by HCV . ADMINISTRATION - (II) is administered by subcutaneous route. Dosages range from 1-252 mg (preferably 1...

DESCRIPTORS: hepatitis C virus NS3 , NS4a protease- inhibitor peptide prep., HPLC analysis, ribavirin, interferon-alpha virucide treatment, solid phase peptide synth., appl. hepatitis C virus infection therapy flavi virus enzyme- inhibitor chromatography protein sequence (21, 40)

27/3,K/4 (Item 2 from file: 357)



DIALOG(R)File 357:Derwent Biotech Res.  
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0291345 DBR Accession No.: 2002-13192 PATENT

**Novel peptide compound having hepatitis C virus protease inhibitory activity useful for treating disorders associated with hepatitis C virus protease - protease-inhibitor peptide for virus infection therapy**

AUTHOR: LIM-WILBY M; LEVY O E; BRUNCK T K

PATENT ASSIGNEE: CORVAS INT INC 2002

PATENT NUMBER: WO 200208251 PATENT DATE: 20020131 WPI ACCESSION NO.: 2002-361643 (200239)

PRIORITY APPLIC. NO.: US 220101 APPLIC. DATE: 20000721

NATIONAL APPLIC. NO.: WO 2001US23169 APPLIC. DATE: 20010719

LANGUAGE: English

**...virus protease inhibitory activity useful for treating disorders associated with hepatitis C virus protease - protease- inhibitor peptide for virus infection therapy**

AUTHOR: LIM-WILBY M; LEVY O E; BRUNCK T K

ABSTRACT: DERWENT ABSTRACT: NOVELTY - Peptide compounds (I) containing 11 amino acid residues having hepatitis C virus ( HCV ) protease inhibitory activity, is new. (I) are alpha-ketoamide peptide analogs. DETAILED DESCRIPTION - New peptide compounds of formula (I) containing 11 amino acid residues having hepatitis C virus ( HCV ) protease inhibitory activity, including enantiomers, stereoisomers, rotomers and tautomers of the compound, and their salts...

... antiviral agent (preferably ribavirin) and an interferon (preferably alpha-interferon). ACTIVITY - Virucide. MECHANISM OF ACTION - Inhibitor of HCV NS3 /NS4a serine protease activity. The HCV protease inhibitory activity of (I) was examined using a spectrophotometry assay by following the procedures...

... concentrations of enzyme and substrate. The results showed that the compounds had excellent utility as NS3 -serine protease inhibitors. USE - (I) is useful for treating and in the manufacture of a medicament to treat disorders associated with HCV protease. (II) is useful for treating disorders associated with hepatitis C virus (claimed). ADMINISTRATION - Administration...

... 250) mg/day. EXAMPLE - A peptide compound, AcEEVVPnV-(CO)-GMSYS-Am having hepatitis C virus ( HCV ) protease inhibitory activity was synthesized. Initially, Fmoc-M-S(tBu)-Y(tBu)-S(tBu)-MBHA...

DESCRIPTORS: hepatitis C virus protease- inhibitor alpha-ketoamide peptide analog prep., HPLC, spectroscopy analysis, ribavirin, interferon-alpha virucide treatment, standard peptide synth., appl. hepatitis C virus infection therapy flavi virus enzyme- inhibitor chromatography protein sequence (21, 40)

27/3,K/5 (Item 3 from file: 357)

DIALOG(R)File 357:Derwent Biotech Res.

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0290479 DBR Accession No.: 2002-12326 PATENT

**Peptides are hepatitis C virus NS3-Serine protease inhibitor useful for treating disorders associated with Hepatitis C virus or HCV protease - enzyme-inhibitor, ribavarin and alpha-interferon treatment for infection therapy**

AUTHOR: SAKSENA A K; GIRIJAVALLABHAN V M; BOGEN S L; LOVEY R G; JAO E E; BENNETT F; MC CORMICK J L; WANG H; PIKE R E; LIU Y; CHAN T; ZHU Z; ARASAPPAN A; CHEN K X; VENKATRAMAN S; PAREKH T N; PINTO P A; SANTHANAM B; NJOROG F G; GANGULY A K; VACCARO H A; KEMP S J; LEVY O E; LIM-WILBY M; TAMURA S Y

PATENT ASSIGNEE: SCHERING CORP; CORVAS INT INC 2002  
PATENT NUMBER: WO 200208187 PATENT DATE: 20020131 WPI ACCESSION NO.:  
2002-280596 (200232)  
PRIORITY APPLIC. NO.: US 220107 APPLIC. DATE: 20000721  
NATIONAL APPLIC. NO.: WO 2001US22813 APPLIC. DATE: 20010719  
LANGUAGE: English

**Peptides are hepatitis C virus NS3 -Serine protease inhibitor useful for  
treating disorders associated with Hepatitis C virus or HCV protease  
- enzyme- inhibitor , ribavarin and alpha-interferon treatment for  
infection therapy**

AUTHOR: SAKSENA A K ; GIRIJAVALLABHAN V M ; BOGEN S L ; LOVEY R G ;  
JAO E E ; BENNETT F ; MC CORMICK J L ; WANG H ; PIKE R E ; LIU  
Y ; CHAN T ; ZHU Z ; ARASAPPAN A ; CHEN K X ; VENKATRAMAN S ;  
PAREKH T N ; PINTO P A ; SANTHANAM B ; NJOROG F G ; GANGULY A K  
; VACCARO H A ; KEMP S J ; LEVY O E ; LIM-WILBY M ; TAMURA S Y

...ABSTRACT: composition comprising (I) and a carrier. ACTIVITY -  
Antiviral; Hepatotropic. MECHANISM OF ACTION - Hepatitis C virus NS3  
-Serine protease inhibitor . USE - (I) is used for the manufacture of  
a medicament or for treating disorders associated with Hepatitis C  
virus or HCV protease (all claimed). ADMINISTRATION - Administration  
is subcutaneous (claimed), oral or intravenous. Dosage is 1.0...

DESCRIPTORS: hepatitis C virus NS3 -serine protease- inhibitor ,  
ribavarin, alpha-interferon treatment, appl. virucide, hepatitis C  
virus infection therapy flavi virus enzyme- inhibitor protein  
sequence (21, 38)

?

T S29/3,K/ALL

>>>KWIC option is not available in file(s): 399

29/3,K/1 (Item 1 from file: 73)  
DIALOG(R)File 73:EMBASE  
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11877258 EMBASE No: 2002449077

**Establishment of a simple assay in vitro for hepatitis C virus NS3 serine protease based on recombinant substrate and single-chain protease**

Du G.-X.; Hou L.-H.; Guan R.-B.; Tong Y.-G.; Wang H.-T.  
Dr. G.-X. Du, Dept. of Applied Molecular Biology, Inst. of Microbiol. and Epidemiology, Fentai, Beijing 100071 China  
AUTHOR EMAIL: dugx@hotmail.com  
World Journal of Gastroenterology ( WORLD J. GASTROENTEROL. ) (China)  
2002, 8/6 (1088-1093)  
CODEN: WJGAF ISSN: 1007-9327  
DOCUMENT TYPE: Journal ; Article  
LANGUAGE: ENGLISH SUMMARY LANGUAGE: ENGLISH  
NUMBER OF REFERENCES: 41

**Establishment of a simple assay in vitro for hepatitis C virus NS3 serine protease based on recombinant substrate and single-chain protease**

Du G.-X.; Hou L.-H.; Guan R.-B.; Tong Y.-G.; Wang H.-T.

Aim: To establish a simple and convenient assay in vitro for the Hepatitis C virus NS3 serine protease based on the recombinant protease and substrate, and to evaluate its feasibility in screening the enzyme inhibitors. Methods: Based on the crystallographic structure of hepatitis C virus ( HCV ) serine protease , a novel single-chain serine protease was designed, in which the central sequence of cofactor NS4A was linked to the N-terminus of NS3 serine protease domain via a flexible linker GSGS. The fusion gene was obtained by two-step PCR...

...vector pQE30, and the recombinant clone was verified by DNA sequencing. The single-chain recombinant protease was expressed when the E.coli was induced with IPTG and the expression conditions were optimized to produce large amount of soluble protease . The recombinant substrate NS5ab that covers the cleavage point NS5A/B was also expressed in E.coli. Both of the protease and substrate were purified by using Ni-NTA agarose metal affinity resin, then they were...

...The cleavage system was used to evaluate some compounds for their inhibitory activity on serine protease . Results: The single-chain recombinant protease was over-expressed as soluble protein when the E.coli was induced at a low dosage of IPTG (0.2 mM) and cultured at a low temperature (15 degreesC). The protease was purified by using Ni-NTA agarose metal affinity resin (the purity is over 95...

...simple and convenient assay in vitro was established, in which the purified single-chain serine protease could cleave the recombinant substrate NS5ab into two fragments that were visualized by SDS-PAGE, PMSF had an effect on inhibiting activity of serine protease , while EDTA had not. Conclusion: A simple and convenient assay in vitro for hepatitis C virus NS3 serine protease is based on recombinant substrate NS5ab and single-chain serine protease. This assay can be...

DRUG DESCRIPTORS:

\*serine proteinase; \*serine proteinase inhibitor --drug development--dv

29/3,K/2 (Item 1 from file: 357)  
DIALOG(R)File 357:Derwent Biotech Res.  
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0291346 DBR Accession No.: 2002-13193 PATENT

**Novel peptide inhibitor compounds of hepatitis virus NS3/NS4a serine protease, useful for treating hepatitis C virus disorders - protease-inhibitor peptide for virus infection therapy**

AUTHOR: SAKSENA A K; GIRIJAVALLABHAN V M; LOVEY R G; JAO E E; BENNETT F; MCCORMICK J; WANG H; PIKE R E; BOGEN S L; LIU Y; ARASAPPAN A; PAREKH T; PINTO P A; NJOROG F G; GANGULY A K; BRUNCK T K; KEMP S J; LEVY O E; LIM-WILBY M

PATENT ASSIGNEE: SCHERING CORP; CORVAS INT INC 2002

PATENT NUMBER: WO 200208256 PATENT DATE: 20020131 WPI ACCESSION NO.: 2002-361644 (200239)

PRIORITY APPLIC. NO.: US 220109 APPLIC. DATE: 20000721

NATIONAL APPLIC. NO.: WO 2001US22826 APPLIC. DATE: 20010719

LANGUAGE: English

**Novel peptide inhibitor compounds of hepatitis virus NS3 / NS4a serine protease, useful for treating hepatitis C virus disorders - protease - inhibitor peptide for virus infection therapy**

AUTHOR: SAKSENA A K; GIRIJAVALLABHAN V M; LOVEY R G; JAO E E; BENNETT F; MCCORMICK J; WANG H; PIKE R E; BOGEN S L; LIU Y; ARASAPPAN A; PAREKH T; PINTO P A; NJOROG F G; GANGULY A K; BRUNCK T K; KEMP S J; LEVY O E; LIM-WILBY M

ABSTRACT: DERWENT ABSTRACT: NOVELTY - A peptide compound (I) exhibiting hepatitis C virus (HCV) protease inhibitory activity, including enantiomers, stereoisomers, rotomers and tautomers, pharmaceutically acceptable salts, solvates or derivatives, of...

... which includes (S), is new. DETAILED DESCRIPTION - A peptide compound (I) exhibiting hepatitis C virus (HCV) protease inhibitory activity, including enantiomers, stereoisomers, rotomers and tautomers, pharmaceutically acceptable salts, solvates or derivatives, of...

...a formula of (F1) or (F2); and (2) preparing (II) for treating disorders associated with HCV protease involves bringing into intimate contact (I) of formula F1 or F2 and a carrier. BIOTECHNOLOGY...

... interferon. ACTIVITY - Virucide; hepatotropic. No supporting data is given. MECHANISM OF ACTION - Hepatitis C virus (HCV) NS3 / NS4a serine protease inhibitors. USE - (I) is useful for manufacturing a medicament to treat disorders associated with HCV protease. (I) having formula of (F2) is useful for modulating activity of HCV protease preferably, HCV NS3 / NS4a protease and for modulating the processing of HCV polypeptide. (II) is useful for treating disorders associated with hepatitis C virus and for treating disorders associated with HCV protease (all claimed). (I) is useful for treating hepatitis caused by HCV. ADMINISTRATION - (II) is administered by subcutaneous route. Dosages range from 1-252 mg (preferably 1...

DESCRIPTORS: hepatitis C virus NS3, NS4a protease - inhibitor peptide prep., HPLC analysis, ribavirin, interferon-alpha virucide treatment, solid phase peptide synth., appl. hepatitis C virus infection therapy flavi virus enzyme- inhibitor chromatography protein sequence (21, 40)

29/3,K/3 (Item 2 from file: 357)

DIALOG(R)File 357:Derwent Biotech Res.

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0291345 DBR Accession No.: 2002-13192 PATENT

**Novel peptide compound having hepatitis C virus protease inhibitory activity useful for treating disorders associated with hepatitis C virus protease - protease-inhibitor peptide for virus infection therapy**

AUTHOR: LIM-WILBY M; LEVY O E; BRUNCK T K

PATENT ASSIGNEE: CORVAS INT INC 2002

PATENT NUMBER: WO 200208251 PATENT DATE: 20020131 WPI ACCESSION NO.:  
2002-361643 (200239)  
PRIORITY APPLIC. NO.: US 220101 APPLIC. DATE: 20000721  
NATIONAL APPLIC. NO.: WO 2001US23169 APPLIC. DATE: 20010719  
LANGUAGE: English

**Novel peptide compound having hepatitis C virus protease inhibitory  
activity useful for treating disorders associated with hepatitis C  
virus protease - protease - inhibitor peptide for virus infection  
therapy**

AUTHOR: LIM-WILBY M ; LEVY O E ; BRUNCK T K

ABSTRACT: DERWENT ABSTRACT: NOVELTY - Peptide compounds (I) containing 11  
amino acid residues having hepatitis C virus ( HCV ) protease  
inhibitory activity, is new. (I) are alpha-ketoamide peptide analogs.  
DETAILED DESCRIPTION - New peptide compounds of formula (I) containing  
11 amino acid residues having hepatitis C virus ( HCV ) protease  
inhibitory activity, including enantiomers, stereoisomers, rotomers and  
tautomers of the compound, and their salts, solvates...

... antiviral agent (preferably ribavirin) and an interferon (preferably  
alpha-interferon). ACTIVITY - Virucide. MECHANISM OF ACTION -  
Inhibitor of HCV NS3 / NS4a serine protease activity. The HCV  
protease inhibitory activity of (I) was examined using a  
spectrophotometry assay by following the procedures described...

... concentrations of enzyme and substrate. The results showed that the  
compounds had excellent utility as NS3 -serine protease inhibitors.  
USE - (I) is useful for treating and in the manufacture of a medicament  
to treat disorders associated with HCV protease . (II) is useful for  
treating disorders associated with hepatitis C virus (claimed).  
ADMINISTRATION - Administration is...

... 250) mg/day. EXAMPLE - A peptide compound, AcEEVVPnV-(CO)-GMSYS-Am  
having hepatitis C virus ( HCV ) protease inhibitory activity was  
synthesized. Initially, Fmoc-M-S(tBu)-Y(tBu)-S(tBu)-MBHA resin...

DESCRIPTORS: hepatitis C virus protease - inhibitor alpha-ketoamide  
peptide analog prep., HPLC, spectroscopy analysis, ribavirin,  
interferon-alpha virucide treatment, standard peptide synth., appl.  
hepatitis C virus infection therapy flavi virus enzyme- inhibitor  
chromatography protein sequence (21, 40)

?

T S34/3,K/ALL  
>>>KWIC option is not available in file(s): 399

**34/3,K/1 (Item 1 from file: 5)**  
DIALOG(R)File 5:BIOSIS Previews(R)  
(c) 2003 BIOSIS. All rts. reserv.

11577771 BIOSIS NO.: 199800358467  
**Peptide-based inhibitors of the hepatitis C virus serine protease.**  
AUTHOR: Llinas-Brunet Montse(a); Bailey Murray; Fazal Gulrez; Goulet Sylvie  
; Halmos Ted; Laplante Steven; Maurice Roger; Poirier Martin; Poupart  
Marc-Andre; Thibeault Diane; Wernic Dominik; Lamarre Daniel  
AUTHOR ADDRESS: (a)Bio-Mega Res. Div., Boehringer Ingelheim (Canada) Ltd.,  
2100 Cunard, Laval, PQ H7S 2G5\*\*Canada  
JOURNAL: Bioorganic & Medicinal Chemistry Letters 8 (13):p1713-1718 July  
7, 1998  
ISSN: 0960-894X  
DOCUMENT TYPE: Article  
RECORD TYPE: Abstract  
LANGUAGE: English

**Peptide -based inhibitors of the hepatitis C virus serine protease .**

ABSTRACT: Hexapeptide DDIVPC-OH is a competitive inhibitor of the  
hepatitis C virus ( HCV ) NS3 protease complexed with NS4A cofactor  
peptide . This hexapeptide corresponds to the N-terminal cleavage  
product of an HCV dodecapeptide substrate derived from the NS5A/5B  
cleavage site. Structure-activity studies on Ac-DDIVPC...  
...REGISTRY NUMBERS: SERINE PROTEASE ; ...

... PROTEASE  
DESCRIPTORS:  
CHEMICALS & BIOCHEMICALS: ... peptide drugs...

...serine protease --...

...enzyme inhibitor , synthesis, pharmaceutical ; NS3 ...

...NS3 protease--...

... NS4A cofactor peptide

**34/3,K/2 (Item 1 from file: 357)**  
DIALOG(R)File 357:Derwent Biotech Res.  
(c) 2003 Thomson Derwent & ISI. All rts. reserv.

0291346 DBR Accession No.: 2002-13193 PATENT  
**Novel peptide inhibitor compounds of hepatitis virus NS3/NS4a serine  
protease, useful for treating hepatitis C virus disorders -  
protease-inhibitor peptide for virus infection therapy**  
AUTHOR: SAKSENA A K; GIRIJAVALLABHAN V M; LOVEY R G; JAO E E; BENNETT F  
; MCCORMICK J; WANG H; PIKE R E; BOGEN S L; LIU Y; ARASAPPAN A;  
PAREKH T; PINTO P A; NJORGE F G; GANGULY A K; BRUNCK T K; KEMP S  
J; LEVY O E; LIM-WILBY M  
PATENT ASSIGNEE: SCHERING CORP; CORVAS INT INC 2002  
PATENT NUMBER: WO 200208256 PATENT DATE: 20020131 WPI ACCESSION NO.:  
2002-361644 (200239)  
PRIORITY APPLIC. NO.: US 220109 APPLIC. DATE: 20000721  
NATIONAL APPLIC. NO.: WO 2001US22826 APPLIC. DATE: 20010719  
LANGUAGE: English

**Novel peptide inhibitor compounds of hepatitis virus NS3 / NS4a  
serine protease , useful for treating hepatitis C virus disorders -**

**protease - inhibitor peptide for virus infection therapy**

ABSTRACT: DERWENT ABSTRACT: NOVELTY - A peptide compound (I) exhibiting hepatitis C virus ( HCV ) protease inhibitory activity, including enantiomers, stereoisomers, rotomers and tautomers, pharmaceutically acceptable salts, solvates or derivatives, of a general formula (F1) or (F2) which includes (S), is new. DETAILED DESCRIPTION - A peptide compound (I) exhibiting hepatitis C virus ( HCV ) protease inhibitory activity, including enantiomers, stereoisomers, rotomers and tautomers, pharmaceutically acceptable salts, solvates or derivatives, of...

... part of the cyclic ring. INDEPENDENT CLAIMS are also included for the following: (1) a pharmaceutical composition (II) comprising a formula of (F1) or (F2); and (2) preparing (II) for treating disorders associated with HCV protease involves bringing into intimate contact (I) of formula F1 or F2 and a carrier. BIOTECHNOLOGY - Preferred Pharmaceutical Composition: Pharmaceutical composition comprising (I) having a formula of (F1) additionally comprises an antiviral agent and an...

... interferon. ACTIVITY - Virucide; hepatotropic. No supporting data is given. MECHANISM OF ACTION - Hepatitis C virus ( HCV ) NS3 / NS4a serine protease inhibitors. USE - (I) is useful for manufacturing a medicament to treat disorders associated with HCV protease . (I) having formula of (F2) is useful for modulating activity of HCV protease preferably, HCV NS3 / NS4a protease and for modulating the processing of HCV polypeptide . (II) is useful for treating disorders associated with hepatitis C virus and for treating disorders associated with HCV protease (all claimed). (I) is useful for treating hepatitis caused by HCV . ADMINISTRATION - (II) is administered by subcutaneous route. Dosages range from 1-252 mg (preferably 1...

DESCRIPTORS: hepatitis C virus NS3 , NS4a protease - inhibitor peptide prep., HPLC analysis, ribavirin, interferon-alpha virucide treatment, solid phase peptide synth., appl. hepatitis C virus infection therapy flavi virus enzyme- inhibitor chromatography protein sequence (21, 40)

34/3,K/3 (Item 2 from file: 357)

DIALOG(R)File 357:Derwent Biotech Res.

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0291345 DBR Accession No.: 2002-13192 PATENT

**Novel peptide compound having hepatitis C virus protease inhibitory activity useful for treating disorders associated with hepatitis C virus protease - protease-inhibitor peptide for virus infection therapy**

AUTHOR: LIM-WILBY M; LEVY O E; BRUNCK T K

PATENT ASSIGNEE: CORVAS INT INC 2002

PATENT NUMBER: WO 200208251 PATENT DATE: 20020131 WPI ACCESSION NO.: 2002-361643 (200239)

PRIORITY APPLIC. NO.: US 220101 APPLIC. DATE: 20000721

NATIONAL APPLIC. NO.: WO 2001US23169 APPLIC. DATE: 20010719

LANGUAGE: English

**Novel peptide compound having hepatitis C virus protease inhibitory activity useful for treating disorders associated with hepatitis C virus protease - protease - inhibitor peptide for virus infection therapy**

ABSTRACT: DERWENT ABSTRACT: NOVELTY - Peptide compounds (I) containing 11 amino acid residues having hepatitis C virus ( HCV ) protease inhibitory activity, is new. (I) are alpha-ketoamide peptide analogs. DETAILED DESCRIPTION - New peptide compounds of formula (I) containing 11 amino acid residues having hepatitis C virus ( HCV )

protease inhibitory activity, including enantiomers, stereoisomers, rotomers and tautomers of the compound, and their salts, solvates or derivatives, are new. (I) are alpha-ketoamide peptide analogs. X = COCH(R4)NHCOCH(R5)NHCOCH(R6)NHCORn, or COCH(R4)NHCOCH(R5)NHCOCH...

... optionally substituted with Q1); and m = 0-2; An INDEPENDENT CLAIM is also included for a pharmaceutical composition (II) comprising (I) as an active ingredient. BIOTECHNOLOGY - Preferred Composition: (II) additionally comprises an antiviral agent (preferably ribavirin) and an interferon (preferably alpha-interferon). ACTIVITY - Virucide. MECHANISM OF ACTION - Inhibitor of HCV NS3 / NS4a serine protease activity. The HCV protease inhibitory activity of (I) was examined using a spectrophotometry assay by following the procedures described...

... concentrations of enzyme and substrate. The results showed that the compounds had excellent utility as NS3-serine protease inhibitors. USE - (I) is useful for treating and in the manufacture of a medicament to treat disorders associated with HCV protease. (II) is useful for treating disorders associated with hepatitis C virus (claimed). ADMINISTRATION - Administration is...

... claimed), orally or intravenously. Dosage is 1-1000 (preferably 1-250) mg/day. EXAMPLE - A peptide compound, AcEEVVPnV-(CO)-GMSYS-Am having hepatitis C virus (HCV) protease inhibitory activity was synthesized. Initially, Fmoc-M-S(tBu)-Y(tBu)-S(tBu)-MBHA resin...

DESCRIPTORS: hepatitis C virus protease - inhibitor alpha-ketoamide peptide analog prep., HPLC, spectroscopy analysis, ribavirin, interferon-alpha virucide treatment, standard peptide synth., appl. hepatitis C virus infection therapy flavi virus enzyme- inhibitor chromatography protein sequence (21, 40)

?



Number	Hits	Search Text	DB	Time stamp
1	3151	"hepatitis C virus"	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/03/20 04:37
7	1333	"hepatitis C virus".ab.	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/03/20 04:37
13	970	"hepatitis C virus".ti.	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/03/20 04:38
19	1483	HCV.ab.	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/03/20 04:38
25	134	"HCV protease"	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/03/20 04:39
31	52	"HCV protease".ab.	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/03/20 04:39
37	121	"HCV protease" and inhibitor	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/03/20 04:39
43	32	"HCV protease".ab. and inhibitor.ab.	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/03/20 04:40
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55	36	"NS3/NS4a"	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/03/20 04:44
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67	11	"NS3/NS4a".ab.	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/03/20 04:46
73	172	"HCV polypeptide"	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/03/20 04:45
85	93	"HCV peptide"	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/03/20 04:45
91	276	"HCV protein"	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/03/20 04:45
97	10	"NS3/NS4a".ab. and inhibitor.ab.	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/03/20 05:08
103	0	"NS3/NS4a".ab. and inhibitor.ab. and 435/6.ccls.	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/03/20 05:08

109	0	"NS3/NS4a".ab. and inhibitor.ab. and 435/5.ccls.	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/03/20 05:09
121	0	"NS3/NS4a".ab. and 435/5.ccls.	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/03/20 05:09
115	9	"NS3/NS4a" and 435/5.ccls.	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/03/20 05:09
127	0	"NS3/NS4a".ab. and 435/6.ccls.	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/03/20 05:09
133	0	"NS3/NS4a".ab. and 435/23.ccls.	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/03/20 05:09
139	6	"NS3 protease" and inhibitor and 514/18.ccls.	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/03/20 05:10
145	22	"NS3 protease" and inhibitor and 435/6.ccls.	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/03/20 05:10
151	0	"NS3 protease".ab. and inhibitor.ab. and 435/6.ccls.	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/03/20 05:10
157	2	"NS3 protease".ab. and inhibitor.ab. and 435/5.ccls.	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/03/20 05:10
169	0	"NS3 protease".ab. and inhibitor.ab. and 435/6.ccls.	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/03/20 05:11
181	0	"NS3 protease".ab. and inhibitor.ab. and 514/18.ccls.	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/03/20 05:11
187	0	"NS3 protease".ab. and inhibitor.ab. and 514/16.ccls.	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/03/20 05:11
193	0	"NS3 protease".ab. and inhibitor.ab. and 514/9.ccls.	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/03/20 05:11
199	0	"NS3 protease".ab. and inhibitor.ab. and 514/160.ccls.	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/03/20 05:11
205	0	"NS3 protease".ab. and inhibitor.ab. and 424/85.4.ccls.	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/03/20 05:11
211	1	"NS3 protease".ab. and inhibitor.ab. and 530/324.ccls.	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/03/20 05:12
217	0	"NS3 protease".ab. and inhibitor.ab. and 530/325.ccls.	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/03/20 05:12

223	2	"NS3 protease".ab. and inhibitor.ab. and 530/326.ccls.	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/03/20 05:13
241	2	"NS3 protease".ab. and inhibitor.ab. and 530/329.ccls.	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/03/20 05:13
247	2	"NS3 protease".ab. and inhibitor.ab. and 530/332.ccls.	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/03/20 05:13
229	2	"NS3 protease".ab. and inhibitor.ab. and 530/327.ccls.	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/03/20 05:14
235	1	"NS3 protease".ab. and inhibitor.ab. and 530/328.ccls.	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/03/20 05:14
175	2	"NS3 protease".ab. and inhibitor.ab. and 435/23.ccls.	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/03/20 05:14
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-	2	5990276.pn.	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/03/19 09:28
-	2	9718968.pn.	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/03/19 09:28
-	2	9718968.did.	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/03/19 09:28
-	2	9817679.did.	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/03/20 04:36

=&gt; d ibib abs hitstr 113 16

L13 ANSWER 16 OF 17 HCAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 1998:268513 HCAPLUS

DOCUMENT NUMBER: 128:321945

TITLE: Preparation of peptide analogs as inhibitors of serine

INVENTOR(S):

Tung, Roger D.; Harbeson, Scott L.; Deininger, David D.; Murcko, Mark A.; Bhisetti, Govinda Rao; Farmer, Luc J.

PATENT ASSIGNEE(S):

Vertex Pharmaceuticals Inc., USA; Tung, Roger D.; Harbeson, Scott L.; Deininger, David D.; Murcko, Mark A.; Bhisetti, Govinda Rao; Farmer, Luc J.

SOURCE:

PCT Int. Appl., 128 pp.  
CODEN: PIXXD2

DOCUMENT TYPE:

Patent

LANGUAGE:

English

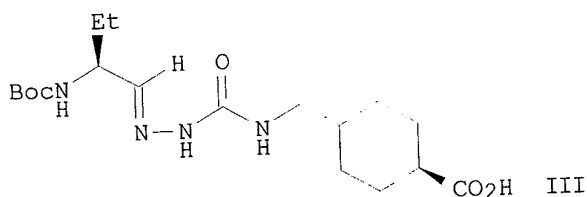
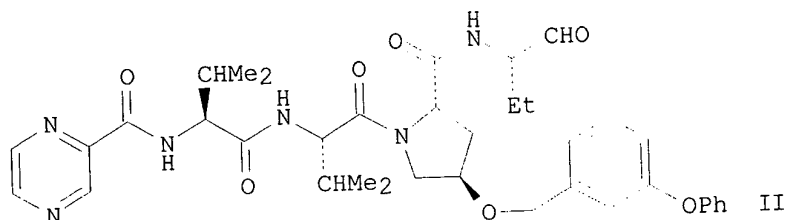
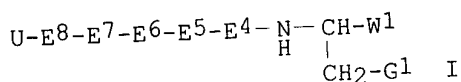
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PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9817679	A1	19980430	WO 1997-US18968	19971017
W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
ZA 9709327	A	19980511	ZA 1997-9327	19971017
AU 9851477	A1	19980515	AU 1998-51477	19971017
AU 719984	B2	20000518		
EP 932617	A1	19990804	EP 1997-946273	19971017
EP 932617	B1	20020116		
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BR 9712544	A	19991019	BR 1997-12544	19971017
CN 1238780	A	19991215	CN 1997-180151	19971017
NZ 335276	A	20000929	NZ 1997-335276	19971017
JP 2001502694	T2	20010227	JP 1998-519568	19971017
EP 1136498	A1	20010926	EP 2001-109433	19971017
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AP 1019	A	20011016	AP 1999-1512	19971017
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AT 212037	E	20020215	AT 1997-946273	19971017
ES 2169880	T3	20020716	ES 1997-946273	19971017
NO 9901832	A	19990617	NO 1999-1832	19990416
US 6265380	B1	20010724	US 1999-293247	19990416
KR 2000049263	A	20000725	KR 1999-703372	19990417
US 2002032175	A1	20020314	US 2001-875390	20010606
PRIORITY APPLN. INFO.:			US 1996-28290P	P 19961018
			EP 1997-946273	A3 19971017
			WO 1997-US18968	W 19971017
			US 1999-293247	A 19990416

OTHER SOURCE(S):  
GI

MARPAT 128:321945



AB The present invention relates to compds. I [G1 = SH, OH, SMe, alkenyl, alkynyl, CF3, C1-2 alkoxy, C1-2 alkylthio, (un)substituted C1-3 alkyl; W1 = COCF2CH2N(G4)U, CHO, COG2, COCF2CF3, COCOG2, COCO2G2, B(Q1)2; G2 = alkyl, aryl, aralkyl, (un)substituted mono-, bi-, or tricyclic heterocycle; G4 = alky, alkenyl, alkynyl, cycloalkyl, cycloalkylalkyl, cycloalkylalkenyl, aryl, aralkyl, aralkenyl, etc.; Q1 = OH, alkoxy, aryloxy, or Q1-Q1 form a 5-7 membered ring; U = H, G9CO, G9SO2, G9COCO, (G9)2NCOCO, (G9)2NSO2, (G9)2NCO, G9O2C; G9 = H, alkyl, carboxyalkyl, alkenyl, aryl, aralkyl, aralkenyl, cycloalkyl, heterocycloalkyl, etc; or G9-G9 form a ring; E4 = bond, .alpha.-amino acid residue, heterocyclic amino acid; E5-E8 = independently bond, amino acid residue; 1-2 peptide bonds between E5-E8 may be reduced], methods and pharmaceutical compns. for inhibiting proteases, particularly serine proteases, and more particularly HCV NS3 proteases. The compds., and the compns. and methods that utilize them, can be used, either alone or in combination to inhibit viruses, particularly HCV virus. Thus, peptide aldehyde II was prepd. using solid-phase methods on a benzhydrylamine resin and tert-butoxycarbonyl (Boc) and 9-fluorenylmethoxycarbonyl (Fmoc) protection starting from protected hydrazone III. Nearly 200 compds. I were prepd. and tested for hepatitis C virus NS3 protease inhibitory activity, with II exhibiting  $K_i < 1 \mu\text{M}$  in an in vitro assay.

IT 207001-61-4P 207001-82-9P 207001-83-0P  
207001-84-1P 207001-85-2P 207001-86-3P  
207001-87-4P 207001-88-5P 207001-89-6P

RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); RCT (Reactant); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); RACT

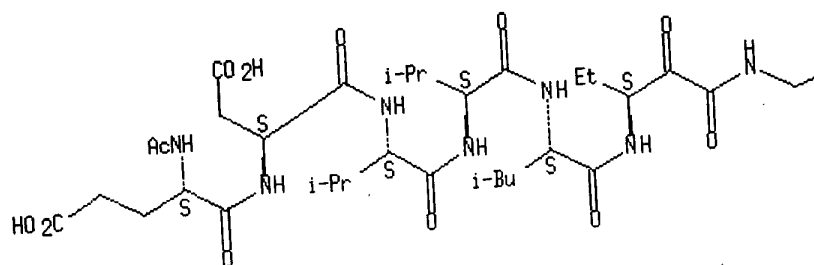
(Reactant or reagent); USES (Uses)  
(prepn. of peptide analogs. as hepatitis C virus NS3 protease  
inhibitors)

RN 207001-88-5 REGISTRY  
CN L-Leucinamide, N-acetyl-L- $\alpha$ -glutamyl-L- $\alpha$ -aspartyl-L-valyl-L-  
valyl-N-[(1S)-1-ethyl-2,3-dioxo-3-[(4-pyridinylmethyl)amino]propyl]- (9CI)  
(CA INDEX NAME)  
FS PROTEIN SEQUENCE; STEREOSEARCH  
MF C38 H58 N8 O12  
SR CA  
LC STN Files: CA, CAPLUS, USPATFULL

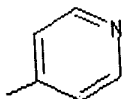
\*\*RELATED SEQUENCES AVAILABLE WITH SEQLINK\*\*

Absolute stereochemistry.

PAGE 1-A



PAGE 1-B



1 REFERENCES IN FILE CA (1962 TO DATE)  
1 REFERENCES IN FILE CAPLUS (1962 TO DATE)